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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/541,773

07/08/2005

Saburo Miyabe

2003041

1491

7590 01/22/2008
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EXAMINER

MAKI, STEVEN D

ART UNIT

PAPER NUMBER

1791

MAIL DATE

DELIVERY MODE

01/22/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/541,773

Applicant(s)

MIYABE ET AL.

Examiner

Steven D. Maki

Art Unit

1791

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☒ Claim(s) 4-17 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 070805.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____.

1) Claims 4-17 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend from any other multiple dependent claim. See MPEP § 608.01(n). Accordingly, the claims 4-17 not been further treated on the merits.

2) The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3) Claims 1-3 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, the subject matter of the intermediate land portion and the inclined grooves at lines 16-20 is ambiguous. The description of "an inner end of the inner longitudinal grooves" is confusing. It is unclear if inclined grooves are required in one or both of the intermediate land portions. In claim 1, it is suggested to (1) on line 16 change "the intermediate land portion" to --each intermediate land portion--, (2) on line 18 change "of the inner longitudinal grooves away from" to --away from the inner longitudinal groove by--, and (3) on lines 19-20 change "the outer longitudinal grooves" to --the outer longitudinal groove--.

In claim 3, the subject matter of angle α is confusing. The description of an "angle ... outside in the axial direction of the tire rearwardly in the tire rotational direction" is confusing. It is unclear with respect to what, the groove wall is inclined and as such it is uncertain if claim 3 requires the outer wall to be inclined with respect to the circumferential, axial or radial direction. In view of figure 3 of the disclosure, it appears

that angle α in claim 3 is intended to be the angle of the inside groove wall of the outer longitudinal groove with respect to the circumferential direction (instead of with respect to the axial direction).

4) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

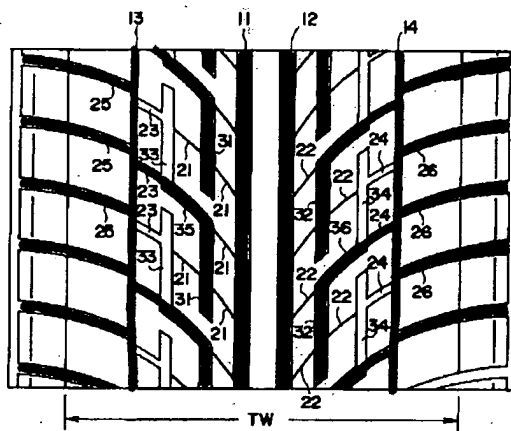
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5) **Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 907 (JP 07-290907) in view of Europe 319 (EP 438319) and Hayashi (US 6,371,180).**

Japan 907 discloses a pneumatic passenger car tire having reduced wandering and excellent water drainage wherein the tire is provided with a directional tread pattern comprising a central continuous rib between inner longitudinal grooves 11, 12 (e.g. groove width = 8 mm), "substantially continuous intermediate ribs", outer circumferential grooves 13, 14 (e.g. groove width = 2 mm) and shoulder blocks separated by lug grooves 25, 26. The "substantially continuous intermediate rib", which is delimited by the inner circumferential groove 12 and the outer circumferential groove 14, comprises "inclined grooves" (32, 36, 24). The other "substantially continuous intermediate rib", which is delimited by the inner circumferential groove 11 and the outer circumferential groove 13, comprises "inclined grooves" (31, 35, 23). See figure 1, abstract and machine translation. Japan 907 teaches that the "steeply slanted part" (e.g. 32) of the

"inclined grooves" is inclined at 0-10 degrees with respect to the circumferential direction and that the "gently slanted part" (e.g. 36, 24) of the "inclined grooves" is inclined at 40-60 degrees with respect to the circumferential direction. Since the angle changes from 0-10 degrees to 40-60 degrees, Japan 907 teaches an increasing angle θ as claimed. Japan 907's disclosed range of 0-10 degrees falls within the claimed range of 0-25 degrees. Japan 907's disclosed angle of 60 degrees falls within the claimed range of 60-80 degrees. A copy of figure 1 of Japan 907 is provided below:

【図1】



The black markings were added by the examiner to Japan 907's figure 1 to facilitate comparison of Japan 907 and claim 1. As can also be seen from figure 1, Japan 907's inclined grooves terminate in the "substantially continuous intermediate rib" such that they are spaced by a "distance La" from the inner circumferential groove. As can also be seen from figure 1, the pitch P1 of Japan 907's "inclined grooves" is two times the pitch P1 of the lug grooves. Japan 907's intermediate ribs are "substantially continuous" instead of "continuous" as claimed because Japan 907 forms slits 21, 22

("sipes" having width of for example 1.2 mm) in the intermediate ribs. In paragraph 13, Japan 907 describes ensuring rib rigidity. Hence, Japan 907 substantially discloses the claimed invention except for the intermediate ribs "continuously" extending in the circumferential direction.

As to claim 1, it would have been obvious to one of ordinary skill in the art to "continuously" extend the intermediate ribs of the directional tread of Japan 907's pneumatic passenger car tire having reduced wandering and excellent water drainage since (1) Europe 319, also directed to a passenger car tire with a directional tread for desired water drainage comprising a continuous central rib, intermediate ribs and shoulder blocks, shows that forming the intermediate ribs such that the intermediate rib extends "continuously" in the circumferential direction (invention tread of figure 1 or prior art directional tread of figure 5) and (2) Hayashi, directed to a directional tread for a passenger car tire, suggests forming the intermediate rib such that it extends continuously in the circumferential direction such that the stiffness of the intermediate rib 32 is ensured to suppress the occurrence of uneven wear and to suppress noise (col. 3 lines 8-12). Thus, Europe 319 suggests continuously extending intermediate ribs in a tire tread having a directional tread pattern similar to that of Japan 907. Moreover, Hayashi motivates one of ordinary skill in the art to continuously extend Japan 907's intermediate ribs to ensure rigidity of these ribs as desired by Japan 907 so as to obtain the expected and predicted result of suppressing uneven wear and preventing noise.

6) Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 907 in view of Europe 319 and Hayashi as applied above and further in view of Watanabe et al (US 5,109,903).

As to claim 2, it would have been obvious to one of ordinary skill in the art to chamfer the acute corners formed by the inclined grooves in Japan 907's intermediate ribs since Watanabe et al suggests chamfering acute corners in a tire tread - including those formed by inclined grooves in a rib, to improve rigidity and reduce non uniform wear.

7) Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 907 in view of Europe 319 and Hayashi as applied above and further in view of Gerresheim et al (US 5,996,661) and Iwamura et al (US 6,109,317).

As to claim 3, it would have been obvious to one of ordinary skill in the art to incline the inside walls of the outer longitudinal grooves of Japan 907's directional tire tread at the claimed angle α since (1) Gerresheim et al and Iwamura et al suggest inclining the walls of outer circumferential grooves of a directional tire tread at a relatively small angle with respect to the circumferential direction so as to form a saw tooth configuration and (2) Iwamura et al teaches that such a saw tooth configuration avoid noise (column 3).

Remarks

8) The remaining references are of interest.

9) No claim is allowed.

Application/Control Number:
10/541,773
Art Unit: 1791

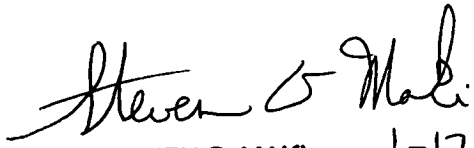
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10) Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven D. Maki whose telephone number is (571) 272-1221. The examiner can normally be reached on Mon. - Fri. 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Steven D. Maki
January 16, 2008


STEVEN D. MAKI
PRIMARY EXAMINER 1-17-08